

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A stent deployment device for allowing a user to deploy a stent in an anatomical lumen of a patient, the stent deployment device comprising:

a support member configured to abut against a palm of a hand of the user;

a longitudinally extending outer tubular member having distal and proximal ends, the distal end configured to receive the stent such that the stent is slidably disposed in the outer tubular member;

a longitudinally extending inner tubular member having distal and proximal ends, the distal end of the inner tubular member comprising a tip, the inner tubular member coupled with the support member and at least a portion of the inner tubular member disposed within the outer tubular member such that the inner tubular member is longitudinally and axially displaceable relative to the outer tubular member; and

a deployment mechanism coupled with the outer tubular member and configured to allow staged release of the stent, the deployment mechanism comprising

a first release member to at least partially move the outer tubular member proximally and longitudinally relative to the inner tubular member, and

a second release member positioned proximal to the first release member and operably connected to the first release member to move the outer tubular member proximally and longitudinally relative to the inner tubular member,

wherein the first release member and the second release member are configured to be serially retracted to provide staged release of the stent such that retracting the second release member moves the first release member and the outer tubular member proximally and longitudinally relative to the inner tubular member from a first position to a second position to partially deploy the stent, and wherein subsequent retraction of the first release member moves the outer tubular member proximally and longitudinally relative to the inner tubular member from the second position to a third position to fully deploy the stent.

2. (Cancelled)

3. (Cancelled)

4. (Previously presented) The stent deployment device as recited in claim 1, further comprising a safety member for preventing movement of the first release member and the outer tubular member toward the support member beyond a predetermined position of the outer tubular member relative to the inner tubular member.

5. (Previously presented) The stent deployment device as recited in claim 4, wherein movement of the first release member from the first position to the predetermined position exposes at least a portion of the stent.

6. (Original) The stent deployment device as recited in claim 5, wherein the portion of the stent exposed is from about 5% to about 95% of the length of the stent.

7. (Previously presented) The stent deployment device as recited in claim 4, wherein the safety member comprises a removable tab disposed between the support member and the outer tubular member.

8. (Original) The stent deployment device as recited in claim 1, further comprising an elongated viewing device having a proximal end and distal end, the viewing device slidably disposed in the outer tubular member such that the proximal end of the viewing device extends outwardly of the proximal end of the outer tubular member.

9. (Original) The stent deployment device as recited in claim 8, further comprising means for releasably securing the viewing device with respect to the outer tubular member.

10. (Previously presented) The stent deployment device as recited in claim 9, wherein the viewing device securing means is associated with the support member.

11. (Cancelled)

12. (Previously presented) The stent deployment device as recited in claim 10, wherein the viewing device securing means comprises a clamp head threadably received in the support member.

13. (Previously presented) A stent delivery system for use in an anatomical lumen of a patient, the stent delivery system comprising:

a support member configured to abut against a palm of a hand of the user;

a longitudinally extending outer tubular member having distal and proximal ends, the distal end configured to receive the stent such that the stent is slidably disposed in the outer tubular member;

a longitudinally extending inner tubular member having distal and proximal ends, the distal end of the inner tubular member comprising a tip, the inner tubular member coupled with the support member and at least a portion of the inner tubular member disposed within the outer tubular member such that the inner tubular member is longitudinally and axially displaceable relative to the outer tubular member;

a stent having a proximal end and a distal end and slidably disposed ~~in~~ within a distal portion of the outer tubular member and around a distal portion of the inner tubular member; and

a deployment mechanism coupled with the outer tubular member and configured to allow staged release of the stent, the deployment mechanism comprising

a first release member to at least partially move the outer tubular member proximally and longitudinally relative to the inner tubular member, and

a second release member positioned proximal to the first release member and operably connected to the first release member to move the outer tubular member proximally and longitudinally relative to the inner tubular member,

wherein the tip of the inner tubular member engages the proximal end of the stent for advancing the stent toward the distal end of the outer tubular member as the first and second release members move toward the support member, and

wherein the first release member and the second release member are configured to be serially retracted to provide staged release of the stent such that retracting the second release member moves the first release member and the outer tubular member proximally and longitudinally relative to the inner tubular member from a first position to a second position to partially deploy the stent, and wherein subsequent retraction of the first release member moves the outer tubular member proximally and longitudinally relative to the inner tubular member from the second position to a third position to fully deploy the stent.

14. (Previously presented) The stent delivery system as recited in claim 13, wherein a portion of the stent is exposed outwardly of the distal end of the outer tubular member.

15. (Previously presented) The stent delivery system as recited in claim 14, wherein the stent is deployed from the distal end of the outer tubular member.

16. (Previously presented) The stent delivery system as recited in claim 13, further comprising a safety member for preventing movement of the first release

member and the outer tubular member toward the support member beyond a predetermined position of the outer tubular member relative to the inner tubular member.

17. (Previously presented) The stent delivery system as recited in claim 16, wherein movement of the first release member from the first position of the outer tubular member relative to the inner tubular member to the predetermined position exposes at least a portion of the stent outwardly of the distal end of the outer tubular member.

18. (Original) The stent delivery system as recited in claim 17, wherein the portion of the stent exposed is from about 5% to about 95% of the length of the stent.

19. (Previously presented) The stent delivery system as recited in claim 16, wherein the safety member comprises a removable tab disposed between the support member and the outer tubular member.

20. (Previously presented) The stent delivery system as recited in claim 13, further comprising an elongated viewing device having a proximal end and distal end, the viewing device slidably disposed in the outer tubular member such that the proximal end of the viewing device extends outwardly of the proximal end of the outer tubular member.

21. (Original) The stent delivery system as recited in claim 20, further comprising means for releasably securing the viewing device with respect to the outer tubular member.

22. (Previously presented) The stent delivery system as recited in claim 21, wherein the viewing device securing means is associated with the support member.

23. (Cancelled)

24. (Previously presented) The stent deployment device as recited in claim 22, wherein the viewing device securing means comprises a clamp threadably received in the support member.

25. (Previously presented) A method for delivering a stent in an anatomical lumen of a patient, the method of stent delivery comprising:

providing a delivery device including

a support member configured to abut against a palm of a hand of the user,

a longitudinally extending outer tubular member having distal and proximal ends, the distal end configured to receive the stent such that the stent is slidably disposed within the outer tubular member,

a longitudinally extending inner tubular member having distal and proximal ends, the distal end of the inner tubular member comprising a tip, the inner tubular member coupled with the support member and at least a portion of the inner tubular member disposed within the outer tubular member such that the inner tubular member is longitudinally and axially displaceable relative to the outer tubular member, and

a deployment mechanism coupled with the outer tubular member and configured to allow staged release of the stent, the deployment mechanism comprising

a first release member to at least partially move the outer tubular member proximally and longitudinally relative to the inner tubular member, and

a second release member positioned proximal to the first release member and operably connected to the first release member to move the

outer tubular member proximally and longitudinally relative to the inner tubular member,

wherein the first release member and the second release member are configured to be serially retracted to provide staged deployment of the stent,

slidably disposing a stent having a proximal end and a distal end within a distal portion of the outer tubular member and around a distal portion of the inner tubular member, wherein the tip of the inner tubular member engages the proximal end of the stent to advance the stent toward the distal end of the outer tubular member as the outer tubular member moves toward the support member relative to the inner tubular member;

positioning the distal portion of the outer tubular member within the anatomical lumen of the patient at a desired location;

retracting the second release member in a direction toward the support member to thereby retract the first release member and the outer tubular member relative to the inner tubular member from a first position to a second position to partially deploy the distal end of the stent; and

retracting the first release member in a direction toward the support member and toward the second release member to thereby retract the outer tubular member relative to the inner tubular member from the second position to a third position to completely deploy the stent in the anatomical lumen of the patient.

26. (Previously presented) The method of stent delivery as recited in claim 25, wherein a portion of the stent is exposed outwardly of the distal end of the outer tubular member.

27. (Previously presented) The method of stent delivery as recited in claim 26, wherein the stent is deployed from the distal end of the outer tubular member.

28. (Previously presented) The method of stent delivery as recited in claim 25, further comprising preventing movement of the first release member and the outer tubular member toward the support member beyond a predetermined position of the outer tubular member relative to the inner tubular member.

29. (Previously presented) The method of stent delivery as recited in claim 25, further comprising

providing an elongated viewing device having a proximal end and distal end, and
slidably disposing the viewing device in the outer tubular member such that the proximal end of the viewing device extends outwardly of the proximal end of the outer tubular member.

30. (Previously presented) The stent delivery system as recited in claim 29, further comprising releasably securing the viewing device with respect to the outer tubular member.

31. (Previously presented) The stent deployment device as recited in claim 1, wherein the deployment mechanism is operable without initially disengaging a safety mechanism.

32. (New) A stent deployment device for allowing a user to deploy a stent in an anatomical lumen of a patient, the stent deployment device comprising:

a support member configured to abut against a palm of a hand of the user;

a longitudinally extending outer tubular member having distal and proximal ends, the distal end configured to receive the stent such that the stent is slidably disposed in the outer tubular member;

a longitudinally extending inner tubular member having distal and proximal ends, the distal end of the inner tubular member comprising a tip, the inner tubular member coupled with the support member and at least a portion of the inner tubular member disposed within the outer tubular member such that the inner tubular member is longitudinally and axially displaceable relative to the outer tubular member; and

a deployment mechanism coupled with the outer tubular member and configured to allow staged release of the stent, the deployment mechanism comprising

a first release member configured to retract proximally and longitudinally with respect to the inner tubular member and configured to at least partially move the outer tubular member proximally and longitudinally relative to the inner tubular member, and

a second release member positioned proximal to the first release member and operably connected to the first release member, the second release member configured to retract proximally and longitudinally with respect to the inner tubular member and configured to move the outer tubular member proximally and longitudinally relative to the inner tubular member,

wherein the first release member and the second release member are configured to be serially retracted to provide staged release of the stent such that retracting the second release member proximally and longitudinally with respect to the inner tubular member moves the first release member and the outer tubular member proximally and longitudinally relative to the inner tubular member from a first position to a second position to partially deploy the stent, and wherein subsequent retraction of the first release member proximally and longitudinally with respect to the inner tubular member moves the outer tubular member proximally and longitudinally relative to the inner tubular member from the second position to a third position to fully deploy the stent.